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Absolutely Uncontrollable Weapons: An Ethical Approach to Defusing Nuclear Risks

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I. Introduction

In the nuclear age, people have lived with the risk of devastating nuclear explosions and radioactive emergencies. These risks range from nuclear war resulting from the failure of nuclear deterrence, accidental nuclear war, to attacks on nuclear power plants. This paper analyzes the uncontrollability of these risks and the inadequate political commitment to defuse them. Finally, this paper examines the necessity of reframing our arguments on nuclear issues in humanitarian terms that confront the inhumane and even unlawful nuclear risks.

II. Absolute Weapons with Deficiency

In August 1945, when the U.S. dropped atomic bombs on Hiroshima and Nagasaki, we had a demonstration of the catastrophic devastation that nuclear weapons can wreak. A book edited by Bernard Brodie called this weapon "the absolute weapon" (Brodie, 1946). However, the various risks inherent in nuclear weapons have threatened states, international communities and peoples for decades.

1. Risk 1: Unproven Nuclear Deterrence Theory

Both the U.S. and the Soviet Union deployed nuclear weapons on a vast, "overkill" scale. The core logic of their military strategy was one of deterrence based on the threat of nuclear retaliation. However, with the passage of time,

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"the international community gradually becomes aware of the inherent contradiction that the destructive power of nuclear weapons is too ruinous to be of practical use" (Ogawa, 2002).

The effectiveness of nuclear deterrence is theoretical; it has yet to be proven, as David Krieger argues below.

> A theory may posit a causal relationship, for example, if one party does something, certain results will follow. In the case of nuclear deterrence theory, it is posited that if one party threatens to retaliate with nuclear weapons, the other side will not attack. That an attack has not occurred, however, does not prove that it was prevented by nuclear deterrence. That is, in logic, a false assumption of causality. (Krieger, 2011)

Nevertheless, government officials and experts in the nuclear deterrence camp maintain the idea of how successfully nuclear deterrence between the U.S. and the Soviet Union has worked. However, in reality, the balance of nuclear terror "nearly tipped into nuclear war in the case of Berlin and the Cuban Missile Crisis" (Sokolski, 2012).

Many proponents of nuclear deterrence often use the Cuban Missile Crisis as the most successful example of nuclear deterrence, suggesting that a devastating nuclear exchange was prevented because of mutual deterrence. On the other hand, policy makers who were involved in this serious crisis had a different viewpoint.

Robert McNamara, the U.S. Secretary of Defense at the time of the Cuban Missile Crisis, was one of them. He emphasized that "at the end we lucked out. It was luck that prevented nuclear war. We came that close to nuclear war at the end. Rational individuals: Kennedy was rational; Khrushchev was rational; Castro was rational. Rational individuals came that close to total destruction of their societies. And that danger exists today." Furthermore, he added, "(t)he major lesson of the Cuban missile crisis is this: the indefinite combination of human fallibility and nuclear weapons will destroy nations" (McNamara, 2007).

Thus, nuclear deterrence is unproven, and great risks of uncontrollability are built into the nuclear weapons system. Why, then, do we still talk about nuclear deterrence? One reason is that many people are not sure that the world is safe enough without nuclear deterrence. However, the most important explanation is that nuclear deterrence is used as "a justification for possessing nuclear weapons" (Wilson, 2008).

2. Risk 2: Accidental and Unintentional Nuclear War

Although enthusiasm for nuclear deterrence continues, the risk of accidental and unintentional nuclear war has had a low profile. However, Bruce Blair, a former USAF nuclear missile launch site officer, has warned over and over again of this risk.

According to Blair, the nuclear war machinery on both the American and Russian sides is on a hair trigger. These two nuclear rivals still "stand ready to inflict apocalyptic devastation on one another in a first or second strike whose essential course would be run in less than one hour." This on-alert nuclear posture has been maintained for decades, even after the end of the Cold War. Because the decision to launch a nuclear missile has to be made and implemented quickly, before missiles launched by the other side can arrive, the response procedure is preplanned in detail. It can reasonably be described as "going to war by checklist, enacting a prepared script, with little margin for human error or technical malfunction" (Blair, 2008).

This quick-reaction system is vulnerable to a mistaken or unauthorized nuclear launch command, ranging from a single nuclear missile to the launch of a massive salvo because of a false warning (Forrow et al., 1998). Scott Sagan (1993) listed past incidents that increased the risk of mistaken missile launch. One of them took place 18 years ago, six years after the end of the Cold War.

The Russian early warning radar detected an unexpected missile launch on January 25, 1995. The estimated flight time to Moscow was only five minutes. The Russian nuclear war machine started its launch procedure, and their early warning and control and command center switched to combat mode. Fortunately,

within five minutes, Russian radar had confirmed that the missile would land outside Russia's borders, and launch preparations were canceled. Sometime later, Russia determined that the missile was Norwegian, and it was launched for scientific research. In fact, on January 16, Norway had notified 35 countries, including Russia, that the launch was planned. This notice had apparently reached the Russian Defense Ministry, but it did not reach the on-duty personnel of the early warning system (Blair, Feiveson & von Hippel, 1997).

How close have we come to nuclear war over the course of the past incidents listed? There is no clear answer to this question, but, "the accumulation of small probabilities of disaster from a long sequence of risks adds up to serious danger" (Philips, online). These small probabilities of disaster suggest that nuclear weapons are not securely controlled.

3. Risk 3: Global Disaster by Regional War

President Obama (2009) said that "the threat of global nuclear war has gone down, but the risk of a nuclear attack has gone up." One of the most serious concerns is a regional nuclear exchange. Polly Holdorf (2011) summarized today's risk of regional nuclear war as follows.

- The concept of limited nuclear war originated in the bipolar security environment of the Cold War, as a potential alternative to a full-scale nuclear war between the United States and the Soviet Union.
- In a multipolar global society populated by a growing number of nuclear states, it is becoming increasingly important to consider the possibility of the use of one or more nuclear weapons during a conflict between regional adversaries.

A true global nuclear war is far more dangerous, but even a limited or regional nuclear war would be disastrous. In the traditional sense, the attacks on Hiroshima and Nagasaki constituted limited nuclear war. Needless to say, these two limited nuclear attacks were completely inhumane. Therefore, the fact that

"the threat of global nuclear war has gone down" is very positive news, but the negative reality of the post-Cold War age is that "the risk of a nuclear attack has gone up."

What is worse, a limited or regional nuclear war could still trigger global environmental catastrophe. There have been strong arguments that global nuclear war could lead to a "nuclear winter" that would threaten all life on the planet. Recent studies by climate scientists, however, have demonstrated that "even a small exchange of nuclear weapons — between 50 and 100 Hiroshima-sized bombs, which India and Pakistan already have their in arsenal — would produce enough soot and smoke to block out sunlight, cool the planet, and produce climate change unprecedented in recorded human history." On top of this risk, research by the National Center for Atmospheric Research (NCAR) suggests that a regional nuclear war "would also burn a hole through the ozone layer, allowing extreme levels of ultraviolet radiation to reach the Earth's surface, which would greatly damage agriculture and most likely lead to a global nuclear famine" (Harrell, 2011).

If larger cities were targeted by nuclear weapons, more soot and smoke would be produced. Therefore, a group of scientists warns that "(t)he combination of nuclear proliferation, political instability, and urban demographics may constitute one of the greatest dangers to the stability of society since the dawn of humans" (Toon et al., 2007).

We cannot have a real experiment on this planet to test whether these hypotheses are correct. Accordingly, we are trapped in a situation in which these risks are beyond our ability to manage with confidence.

III. Civilian Nuclear Uses with Catastrophic Risks

1. Risk 4: Power — Weapons Crossover

The probability of nuclear catastrophe will increase if nuclear proliferation is accelerated by the spread of civilian uses of nuclear energy.

The energy source of both nuclear weapons and nuclear power plants is the fission of uranium or plutonium atoms, a process that releases huge amounts of

energy. Therefore, the materials, technologies, facilities and human resources associated with the civilian use of nuclear energy can be co-opted for military use.

This tight connection between nuclear power and nuclear weapons is called the power–weapons crossover. This power–weapons crossover is "seriously underplayed and often ignored in discussions about the so-called 'need' for nuclear power to help meet energy demand while addressing global warming concerns" (Ackland, 2009).

The fundamental document of the global agreement that bars nuclear proliferation and promotes civilian nuclear energy use is the Non Proliferation Treaty (NPT), which was enacted in 1970. The NPT contains a set of obligations that nuclear-weapon states (NWS) and non-nuclear-weapon states (NNWS) have undertaken to ensure the nonproliferation of nuclear weapons and movement toward a nuclear-weapon-free world, often referred to as the "Grand Bargain" (Weiss, 2003). The agreement obligates the NWS to initiate negotiations on nuclear disarmament (Article VI) and not to assist efforts by the NNWS to obtain nuclear weapons (Article I). The NPT also requires the NNWS to forgo the acquisition of nuclear weapons (Article II) and to place all of their nuclear facilities under international safeguards (Article III). In addition, the NPT recognizes the "inalienable right" to research, develop, produce and use nuclear energy for peaceful purposes (Article IV).

2. Risk 5: Loopholes in the NPT

In the real world of politics, several states already have exploited Article IV to advance their dubious nuclear weapons programs and to threaten international security. Iraq and Libya attempted to establish uranium enrichment programs without international safeguards. North Korea acquired a spent fuel reprocessing facility in the name of peaceful purposes, but they used it to acquire plutonium for nuclear explosive devices. Iran is still expanding its uranium enrichment program without accepting the full scope of international safeguards, including the Additional Protocol. If we leave loopholes in the NPT and allow such abuses

of Article IV to continue, "the net-value of peaceful nuclear cooperation will diminish, and the security benefits derived from the NPT will erode" (Sanders, 2004).

How should we think about risks embedded in this nuclear power–weapons crossover? Business as usual cannot be the answer. Realist recommendations were provided in the Futures Roundtable report by the Lawrence Livermore National Laboratory in the U.S. The experts who participated in this round table shared certain understandings, such as: (a) security concerns will continue to play a central role in the debate over the nuclear future; (b) the existing nonproliferation regime must be enhanced, particularly enforcement; and (c) tighter control of nuclear material is required, followed by minimization of surplus material. The participants concluded that to achieve a clear vision for the future of nuclear technology, "something on the scale of the 1953 Eisenhower speech" would be necessary (Lehman II, 2004).

In 1953 President Eisenhower gave a speech at the UN General Assembly (UNGA), the key elements of which were the promotion of both nuclear disarmament and civilian nuclear energy, and the international control of nuclear fissile materials. So, when we consider a vision on the scale of this speech, we need to explore international control of these materials for the purpose of enhancing and enforcing the NPT.

However, from an empirical point of view, it is highly unlikely that the international community will reach a consensus on an international or multilateral system to control nuclear fissile materials safely and securely.

The NWS and many of their allies hope to contain "cheaters"—states that are parties to the NPT but who either secretly or openly mount nuclear weapons programs. Although this approach is based upon reasonable concerns, "less attention has been paid to the failures of the NWS to meet their commitments under the NPT" (Weiss, 2013). As described previously, if the NWS want the NNWS to accept new international obligations, then the first thing that they should do is to become more serious about nuclear disarmament negotiations. Without this component of the "Grand Bargain", many NNWS will regard the

introduction of new international obligations as unfair and perhaps even a violation of their inalienable rights manifested in Article IV.

Therefore, the NPT will probably remain an incomplete regime with loopholes. If this (somewhat pessimistic) outcome occurs, nuclear proliferation will continue, and the risk of a nuclear war or confrontation will increase exponentially.

3. Risk 6: Weaponization of Nuclear Facilities

Even if not converted to military use, civilian nuclear energy facilities still are a potential risk to peaceful society. An attack on nuclear facilities by terrorists or during war can cause a serious radioactive emergency.

Currently, there are 440 nuclear reactors in operation worldwide. Sixty more are planned, and many of them are in developing countries. What would happen if nuclear facilities were attacked? Many American and European experts shared a heightened concern for the terrorist targeting of nuclear power plants following the Fukushima accident. It is a nightmarish scenario that combines "9/11" (the collapse of the World Trade Center) and "3/11" (the Fukushima accident).

A joint study by U.S. and Russian experts on the threat of nuclear terrorism concluded that "(o)ne important lesson of the Chernobyl and Fukushima accidents is that what can happen as a result of an accident can also happen as a result of a premeditated action." The report goes on to say that "(i)ndeed, today's high levels of nuclear safety are dependent on the high reliability of components such as cooling systems; if these are intentionally destroyed, the probability of a large release would increase greatly" (Bunn et al., 2011).

The risk imposed by possible military attacks on nuclear facilities has been a matter of concern for many years. An analytical report issued by the Royal Commission on Environmental Pollution (1976) presented some serious thoughts about the effects of a military attack on nuclear installations.

In the case of nuclear war, radioactive contamination would be just a part of a general catastrophe. However, at the same time, we need to take into consideration that "an attack with conventional weapons leading to the release

of radioactivity would produce some of the effects of nuclear weapons." As conventional war "could be magnified by attack on nuclear installations", this risk should definitely be "a major factor to consider when deciding whether, or to what extent, to use nuclear power."

What would be the military rationale for a conventional attack on nuclear facilities? One motivation might be to cripple the enemy's energy sources, including nuclear power plants. A second motivation might be to impede postwar recovery by seriously damaging the environment. Military attacks on nuclear facilities would have significant implications for international stability, as the released radioactive products could easily cross national borders. Nevertheless, military planners are "likely to contemplate the destruction of atomic installations, including nuclear fuel fabrication, power, spent fuel, reprocessing, and waste storage facilities" (Ramberg, 1980).

As in the case of nuclear war, we have no crystal ball to tell us what would happen in an attack on a nuclear facility. Despite this uncertainty, because of the possible magnitude of radioactive contamination in such an attack, we must regard nuclear facilities as potential enemy weapons that are beyond our control.

IV. Ethical Responses of the International Community

What ethical responses can we make to the risks of nuclear weapons and the weaponization of nuclear facilities? Ethical responses can be examined through multiple prisms, but this article focuses on multinational legal approaches that support humanitarian principles.

1. Humanitarian Law

International humanitarian laws, which have been evolving since the nineteenth century, lay out basic principles and rules for weapons of war, including prohibiting or restricting the use of certain weapons. Additionally, some international humanitarian laws prohibit military attack on certain targets, such as nuclear facilities.

These basic principles, which apply in all armed conflicts, oblige state

parties in a conflict (i.e., the warring parties, whether states or non-state armed groups) to target only military objectives and not the civilian population, individual civilians or civilian objects (e.g., homes, schools, and hospitals). Failure to make this distinction in military operations is a war crime (Fujita, 1988).

Of course, for nuclear weapons, the following question comes to mind: Can the use of nuclear weapons, which have such horrific effects on humans and the environment, be compatible with human conscience and with international humanitarian laws? In fact, there is no international humanitarian law that specifically prohibits the use of nuclear weapons or threats to use nuclear weapons.

2. The Advisory Opinion of the International Court of Justice

Having deep concern for the above legal situation, the UNGA and the World Health Organization (WHO) requested an Advisory Opinion by the ICJ (International Court of Justice). The ICJ replied that the threat or use of nuclear weapons would generally be contrary to the rules of international law applicable in armed conflict, and in particular, it would violate the principles and rules of humanitarian law. However, given current international laws, the ICJ avoided definitively answering whether the threat or use of nuclear weapons would be lawful in extreme self-defense circumstances, such as when the very survival of a state was at stake (ICJ, 1996).

This Advisory Opinion represented one step forward, as it established a standard by which the threat or use of nuclear weapons would generally be contrary to the rules of international law. However, it was less than what humanitarians had hoped for, because it acknowledged that the threat or use of nuclear weapons could be lawful and justified in extreme cases.

3. A Model Nuclear Weapons Convention

Inspired by the ICJ's Advisory Opinion, lawyers, doctors, scientists and

other groups met repeatedly over a period of several months. The product of this exercise was released as the Model Nuclear Weapons Convention (NWC). The provisions of the NWC prohibit the development, testing, production, stockpiling, transfer, use and threat of use of nuclear weapons. It also outlines five phases in the elimination of nuclear weapons, starting with reducing the high-alert status of nuclear weapons, which includes removing nuclear warheads from their delivery vehicles (NWC provisions, 1997).

At the request of Costa Rica, in April 1997, the NWC was accepted as official UN Document A/C.1/52/7. In the Final Document of the 2010 NPT Review Conference, the state parties took note of the proposal of the U.N. Secretary General to consider starting negotiations on this NWC. This was the first time that an NPT Review Conference final document referred to international law that prohibits nuclear weapons.

The mayors of Hiroshima and Nagasaki endorsed the NWC and actively joined international campaigns to make it a reality. For example, the two mayors sent a letter to the Prime Minister of Japan and urged work toward early realization of the NWC. The letter stated that, in the international community, "there is an accelerating drive to outlaw nuclear weapons, highlighting their inhumane nature."

These efforts from the humanitarian side, such as the request for the ICJ Advisory Opinion and the endorsement of the NWC, highlight the inherent ethical problems of nuclear weapons. Capturing this new trend in the international community, in March 2013, the Norwegian government hosted an international Conference on the Humanitarian Impact of Nuclear Weapons.

The conference concluded by recognizing that (a) the current discourse on nuclear weapons has been insufficient to address the grave threats that they pose to human existence, and (b) the challenge posed by nuclear weapons to human and planetary survival must be addressed through preventative measures (The Women's International League for Peace and Freedom, 2013). This conference was the first time that many governments have gathered to address the humanitarian impact of nuclear weapons. Mexico announced that it will host a

follow-up meeting.

4. Less Attention to the Weaponization of Nuclear Facilities

This series of political engagements in the last two decades strongly reflects the deep concerns that many states and peoples have about the inherent risks of nuclear weapons. These political engagements provoked and encouraged a significant change in perspective for many NNWS and peoples vis-à-vis the nuclear age.

In marked contrast, far less attention has been paid to the dangers of weaponized nuclear facilities. Of course, some positive and notable attempts have been made. For example, in the Additional Protocol (1997) to the 1949 Geneva Convention, attempts were made to apply humanitarian principles to the military necessity to attack nuclear facilities. Article 56 (Protection of works and Installations Containing Dangerous Forces) prohibits attacks on dams, dykes and nuclear electrical generating stations "if such attack may cause the release of dangerous forces and consequent severe losses among the civilian population" (Additional Protocol of 1997). This was a step forward from an ethical point of view, but there is still ambiguity.

As written above, an attack on a nuclear facility would be unlawful if it inflicted severe losses on the civilian population. However, it is not clear what "severe losses" means. Even if a radioactive release were serious in terms of public health, the cancer consequences of irradiation may take years to manifest. Meanwhile, the attacker can proclaim that severe losses have not been proved. Furthermore, because of this ambiguity, Article 56 could conceivably be used to justify an attack on a nuclear power station.

Resolution 533 of the IAEA (1990) is part of the international legal framework governing the security of civilian nuclear energy. The title of Resolution 533 is "Prohibition of All Armed Attacks against Nuclear Installations Devoted to Peaceful Purposes Whether under Construction or in Operation." This resolution recognizes that "an armed attack or a threat of armed attack on a safeguarded nuclear facility, in operation or under construction,

would create a situation in which the United Nations Security Council would have to act immediately in accordance with the provisions of the United Nations Charter."

However, this does not mean that such attacks are automatically judged as unlawful, because the UN Security Council may not necessarily take action. Proponents of Resolution 533 appealed to the Conference on Disarmament in Geneva to overcome their differences and to reach a treaty to ban such attacks, but there has been no visible progress.

The main reason why a treaty to ban attacks on nuclear facilities has not been passed is that certain countries do not want to abandon the option to target nuclear facilities. Actually, the U.S. destroyed Iraqi nuclear facilities during the Gulf War in 1991, and Israel's air force destroyed a suspected nuclear reactor under construction in Syria in 2007. These cases did not immediately cause severe losses among civilian populations, and the UN Security Council did not take any official actions, such as imposing sanctions.

5. Nuclear Terrorism Convention

As the most recent ethical response, the International Convention for the Suppression of Acts of Nuclear Terrorism (Nuclear Terrorism Convention) should be mentioned. This Convention was adopted by the UNGA in April 2005. It details offenses associated with the unlawful and intentional possession and use of radioactive material or a radioactive device, and the use or damage of nuclear facilities. However, so far, fewer than half of the UN member states have ratified the Convention, in part because many developing countries still have difficulties with their legal and justice systems because of a lack of human and financial resources.

In sum, unfortunately, legal restraints remain fairly weak in preventing attacks on nuclear facilities. Although the Fukushima accident demonstrated a new type of radioactive threat by state or nonstate actors, the international community failed to address the danger and inhumanity of weaponized nuclear facilities. Subsequently, Ramberg (1990)'s conclusion is still valid. He describes

a reality as follows: "(t)he temptation of wartime threats or actions against nuclear energy facilities in many regions of the world adds a significant dimension to the problem of maintaining international peace and minimizing the consequence of war. These conclusions suggest that the vulnerability of nuclear energy facilities to military actions should be included in nuclear energy risk calculations."

V. Ethical Empowerment

To satisfy a global demand to secure the international community against nuclear risks, ethical power supplied by transnational civil society is desperately wanted. The bottom line is that civil empowerment on a global scale, based on humanitarian principles, will be a driving force in making a difference in conventional political discourse.

1. Political Reality

Given the various kinds of risks posed by both military and civilian nuclear energy, why on earth have we failed to minimize or eliminate these risks?

On the military side, it is largely because nuclear deterrence has been adopted as a core component of national and international defense strategies, despite the risks and deficiencies of this approach (as described in previous paragraphs). It is also true that we have yet to devise practical security frameworks and international regimes as alternatives to nuclear deterrence.

On the civilian side, many countries consider nuclear energy to be helpful in meeting their energy requirements without contributing to global warming. On the other hand, postnuclear countries, such as Germany, have decided to shift away from nuclear power generation. In Japan, there have been active political and public debates following the Fukushima accident, and the ruling Liberal Democratic Party was the only opponent to phasing out nuclear power among the nine major political parties in the Upper House election campaigns in July 2013.

However, in general, the international community has not fully explored

ways and means to minimize the potential uncontrollability of radioactive risks. Indeed, relatively little political attention has been paid to the risks associated with the civilian use of nuclear energy.

2. An Inadequate Ethical Response

On many occasions, political leaders have pledged their efforts to carry out their ethical responsibility to deal with nuclear risks. They have often included critical appraisals of the various risks inherent in nuclear weaponry and nuclear power generation systems. However, political leaders are often better with words than with deeds.

Of course, they should be responsible for the gap between their words and deeds, as well as for their inaction. Having said that, as is often the case in politics, political leaders will not commit themselves to difficult tasks unless strong public interest and support prevail.

In democratic societies, we the people decide how to deal with significant issues such as nuclear risks. It is not just political leaders who have political responsibilities; ordinary citizens do too. Accordingly, we the people, as the beneficiaries of security by nuclear deterrence and consumers of electricity generated by nuclear power, are coresponsible for the fact that we still live with these dangers. In democratic countries, civil society consists of people who have the power to shift policies by changing political leaders or ruling parties through elections and other democratic tools. Did we fully exercise our civil rights with an ethical sense of the humanitarian emergency? Apparently, not enough.

In the last two decades, we have observed some success stories by civil society. In obtaining the ICJ advisory opinion, the "World Court Project (WCP)" of the transnational civil movement played a magnificent role. NGOs such as the Lawyers' Committee on Nuclear Policy (LCNP), the International Association of Lawyers Against nuclear Arms (IALANA), the International Peace Bureau (IPB) and the International Physicians for the Prevention of Nuclear War (IPPNW) led the WCPs and the worldwide campaign that resulted in the historic advisory opinion.

Civil society provided strong support to the Norwegian organizers of the first International Conference on the Humanitarian Impact of Nuclear Weapons in 2013. Prior to the governmental conference, an NGO called the International Campaign to Ban Nuclear Weapons (ICAN) convened a series of events in and around this conference and provided much inspiring input to the governmental conference.

However, more success stories are needed in the face of the great nuclear dangers. Actions taken by civil society have not been enough to end our reliance on nuclear energy in both military and civilian use.

Dryzek (2006) uses the term "reflexive modernization" to explain the activism of today's civil society. He argues that "(r)eflexive modernization means that ever-increasing numbers of actors are capable of influencing their social relationships rather than simply accepting them. The basic idea of reflexive modernization is that individuals are increasingly unwilling to take for granted the tradition in which they have been socialized, or to accept risks imposed upon them as inevitable accomplishments as progress." Definitely, more reflexive modernization in globalized civil society should be welcomed and extended in the effort to tackle nuclear risks.

3. Conclusion: Democratic Peace Beyond Geography and Generation

To hold political leaders accountable to their words, civil society needs to put a higher priority on policies necessary to deal with the humanitarian emergency posed by nuclear risks. We must demand that political leaders commit themselves to immediately minimizing those risks and eventually eliminating them.

On the military front, this is not only a matter for the NWS but also an issue for the NNWS and, in particular, states such as Japan that live under a "nuclear umbrella" (extended nuclear deterrence) provided by the NWS. On the civilian front, stakeholders include all of the nuclear and postnuclear countries and their societies.

Taking into account what we have done and not done, we must articulate and pursue risk-reduction measures on a global scale—that is, we must act beyond national borders. With respect to such actions, Chumakov's (1998) perspective on the role of civil society and humanism is insightful.

> At the dawn of global civil society, the test for humanity is to achieve unity while preserving cultural differences as well as the distinctiveness of nations and peoples. Such unity can be reached only by recognizing human values, especially human rights.

Furthermore, in the same context, Chumakov emphasizes the need to "develop foundations and principles for a world society and to formulate a global consciousness and a humanistic worldview that adequately reflects the realities of our epoch." He maintains that our action must increasingly be based on an acknowledgment of global human values.

If we acknowledge global human values, we can see from the footprints that we have left behind that we have not adequately responded to the risks posed by military and civilian nuclear energy. Our footprints reflect the conventional pattern of our priorities: political realism first, and human ethics second. This kind of "ethical deficit" in our political choices is counterproductive to our efforts to reduce nuclear risks. What we need is a democratic risk-reduction process—a way to get beyond geography and generation through global civil empowerment.

To change this "ethical deficit" to an "ethical surplus", we desperately need to reframe our arguments on nuclear issues in humanitarian terms and to initiate swift civil actions in coordination with like-minded states that support the abolition of nuclear weapons and the weaponization of nuclear facilities. Thus, we have to make it a global norm immediately to reduce, and ultimately to eliminate, nuclear risks.

A book edited by Brodie in 1946 said that "(i)t is not only sovereign states but individual attitudes which must undergo transformation" in the nuclear age,

and although "(a)bsolute freedom from the fear of the absolute weapon may not be for our time … let us, with intelligence, determination, persistence, and good will, get on with the task of meeting this new threat."

Shall uncontrollable weapons, including weaponized nuclear facilities, destroy us or shall we destroy them? The answer depends on us not them.

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Absolutely Uncontrollable Weapons: An Ethical Approach to Defusing Nuclear Risks

<Summary>

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To analyze “Ethics and Peace and Nuclear Weapons,” a critical appraisal of the various risks inherent in nuclear weapons systems is indispensable. The logic of deterrence, that nuclear weapons as absolute weapons can maintain peace and stability, has been heard for decades. Whatever rationale this logic may have had, it has become less credible. Moreover, the unnecessary high-alert status of nuclear weapons remains, posing the risk of accidental or unintentional nuclear war. In addition, concerns for proliferation increase as some key technologies and fissile materials can be used for both civilian and military purposes. Even limited or regional nuclear war resulting from proliferation would be disastrous to large populations and the global environment. When considering nuclear risks, the weaponization of nuclear facilities such as power plants should be addressed. Weaponization in this context refers to an attack on a nuclear facility in war or by terrorists to release radioactive material into populated areas and the environment. Given these nuclear imperatives, this article will (1) review the uncontrollability of risks posed by both military and civilian nuclear systems, (2) describe the inadequacy of humanitarian responses to deal with nuclear risks, and (3) discuss the necessity of the “Ethical Empowerment” of civil society to reframe our arguments on nuclear issues in humanitarian terms and to make nuclear imperatives controllable and ultimately to resolve them.